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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,681	08/06/2002	Mark E. Addis	EH-10712	7220

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PRATT & WHITNEY  
400 MAIN STREET  
MAIL STOP: 132-13  
EAST HARTFORD, CT 06108

EXAMINER

MILLER, WILLIAM L

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,681

Applicant(s)

ADDIS, MARK E.

Examiner

William L. Miller

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,6-8,26 and 31-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 and 35-39 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-8,26,32-34,40,42 and 43 is/are rejected.
- 7) ☒ Claim(s) 3 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 6-8, 26, 32-34, 40, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aksit et al. (US#6533284) in view of Atkinson et al. (US#5106104).
3. Regarding claims 1 and 32, Aksit discloses in Fig. 2 a single stage brush seal adapted to restrict fluid flow through a gap between a first component 32 and a second component 34, comprising: a body 36,42,38; a brush pack 43; and a passageway 46 having a first end exposed to the gap and corresponding to the brush pack, and a second end not exposed to the gap.
4. Aksit fails to disclose a multiple stage brush seal thus having a plurality of brush packs and respective passageways wherein each stage of the seal includes at least one of the passageways. The applicant is reminded duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Atkinson teaches it is known to substitute a multiple stage brush seal for a single stage brush seal when the pressure drop across the seal is too great for a single set of bristles to handle (col. 2, lines 36-42). Therefore, as taught by Atkinson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify by Aksit by duplicating its components thereby creating a multiple stage brush seal having a plurality of brush packs and

Art Unit: 3677

respective passageways wherein each stage of the seal includes at least one of the passageways.

The resulting seal would improve seal effectiveness versus large pressure drops across the seal.

5. Regarding claims 2 and 40, Aksit discloses the body comprises a side plate 36 and a backing plate 38 such that the passageway extends through the side plate.

6. Regarding claims 4 and 42, Aksit discloses the first end is adjacent the brush pack.

7. Regarding claims 6 and 32, Aksit discloses the first component has a passageway 48 in communication with the second end.

8. Regarding claims 7, 8, 33, and 34, the first component is a stationary component (col. 3, lines 12-13) of a gas turbine engine (col. 1, lines 6-10).

9. Regarding claims 26 and 43, Aksit discloses the first end is upstream of the brush pack.

***Allowable Subject Matter***

10. Claims 3 and 41 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 31 and 35-39 allowed.

***Response to Arguments***

12. Applicant's arguments regarding GB 2,258,277 have been considered and are persuasive.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tseng et al. (US#5335920) provides further evidence a brush seal may comprise one or more stages (col. 6, lines 18-19).

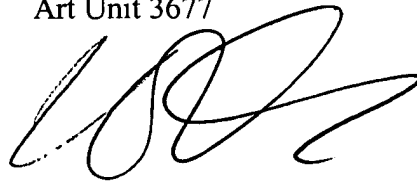
Art Unit: 3677

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Miller whose telephone number is 703 305 3978. The examiner can normally be reached on Tuesday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 703 306 4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William L. Miller  
Primary Examiner  
Art Unit 3677

A handwritten signature in black ink, appearing to be 'WLM', written over a horizontal line.

WLM  
01-05-2005